

**From:** Li, Dong (Maggie) <LiD1@bv.com>  
**Sent:** Friday, March 8, 2024 6:27 PM  
**To:** Grace King  
**Cc:** Joshua Wheatley; Crystal Delacruz; Celine Rosales; Briannah Spooner; Sarah Kyser; Thomas Greinert; Brittiny Williams  
**Subject:** RE: TCEQ Standard Permit Project Nos. 371185 - 371199 - San Antonio Water System  
**Attachments:** line-by-line Electric Generating Unit (EGU) Standard Permit rule compliance.pdf; 371185 – 175578 – Sunset Pump Station Table 29.pdf; 371186 – 175579 – Stone Oak Pump Station Table 29.pdf; 371187 – 175580 – Seale Pump Station Table 29.pdf; 371188 – 175581 – Potranco Pump Station Table 29.pdf; 371189 – 175582 – New World Pump Station Table 29.pdf; 371190 – 175583 – Montgomery Pump Station Table 29.pdf; 371191 – 175584 – Marbach 2 Pump Station Table 29.pdf; 371192 – 175585 – IH-10 Pump Station Table 29.pdf; 371193 – 175586 – Hills Pump Station Table 29.pdf; 371194 – 175587 – Evans Pump Station Table 29.pdf; 371195 – 175588 – Cagnon Pump Station Table 29.pdf; 371196 – 175589 – Artesia Pump Station Table 29.pdf; 371197 – 175590 – Anderson Pump Station Table 29.pdf; 371198 – 175591 – Micron Pump Station Table 29.pdf; 371199 – 175592 – Marbach Pump Station Table 29.pdf; 371193 – 175586 – Hills Pump Station\_Process Description.pdf; 371194 – 175587 – Evans Pump Station\_Process Description.pdf; 371195 – 175588 – Cagnon Pump Station\_Process Description.pdf; 371196 – 175589 – Artesia Pump Station\_Process Description.pdf; 371197 – 175590 – Anderson Pump Station\_Process Description.pdf; 371198 – 175591 – Micron Pump Station\_Process Description.pdf; 371199 – 175592 – Marabach Pump Station\_Process Description.pdf; 371185 – 175578 – Sunset Pump Station\_Process Description.pdf; 371186 – 175579 – Stone Oak Pump Station\_Process Description.pdf; 371187 – 175580 – Seale Pump Station\_Process Description.pdf; 371188 – 175581 – Potranco Pump Station\_Process Description.pdf; 371189 – 175582 – New World Pump Station\_Process Description.pdf; 371190 – 175583 – Montgomery Pump Station\_Process Description.pdf; 371191 – 175584 – Marabach 2 Pump Station\_Process Description.pdf; 371192 – 175585 – IH-10 Pump Station\_Process Description.pdf

Hi Grace,

Attached are the additional documents for all 15 permit applications.

- Provide a non-confidential project and process description. – [Attached – “CONFIDENTIAL” was deleted from the file of each site.](#)
- Provide line-by-line Electric Generating Unit (EGU) Standard Permit rule compliance. – [Attached – response was provided to each line.](#)
- Provide a Table 29 for each engine being authorized with this project. – [Attached – one Table 29 for each site as the engines are identical.](#)

Please let me know if there is anything else is required.

Sincerely,

**Maggie (Dong) Li, Ph.D., P.E.\***

Engineering Manager

BV Operations – Government & Environment

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**From:** Grace King <[Grace.King@tceq.texas.gov](mailto:Grace.King@tceq.texas.gov)>

**Sent:** Friday, March 8, 2024 2:21 PM

**To:** Li, Dong (Maggie) <[LiD1@bv.com](mailto:LiD1@bv.com)>

**Cc:** Joshua Wheatley <[Joshua.Wheatley@tceq.texas.gov](mailto:Joshua.Wheatley@tceq.texas.gov)>; Crystal Delacruz

<[Crystal.DelaCruz@tceq.texas.gov](mailto:Crystal.DelaCruz@tceq.texas.gov)>; Celine Rosales <[Celine.Rosales@tceq.texas.gov](mailto:Celine.Rosales@tceq.texas.gov)>; Briannah Spooner

<[Briannah.Spooner@tceq.texas.gov](mailto:Briannah.Spooner@tceq.texas.gov)>; Sarah Kyser <[Sarah.Kyser@tceq.texas.gov](mailto:Sarah.Kyser@tceq.texas.gov)>; Thomas Greinert

<[Thomas.Greinert@tceq.texas.gov](mailto:Thomas.Greinert@tceq.texas.gov)>; Brittney Williams <[Brittney.Williams@tceq.texas.gov](mailto:Brittney.Williams@tceq.texas.gov)>

**Subject:** RE: TCEQ Standard Permit Project Nos. 371185 - 371199 - San Antonio Water System

Good afternoon,

See the answers to your questions below in red:

1. As it is new air permit application, the natural gas generators are still being fabricate by the manufacturer and we don't have the Serial No. and Manufacture date yet. Can we fill those as "To be provided later" on Table 29?
  - a. Yes, the company can answer "TBD" on serial number, however it should be noted it will be post March 8, 2024 for manufacture date if they are currently being fabricated.
2. All generators/engines for each site are the same. Can we fill in one form for each site and list all EPNs something as below?
  - a. If all the engines on one site are the exact same then one Table 29 can be provided for the each project.
3. What are the number for each site listed in your email? Here is what I have on TCEQ STEERs website under my account. Do you want me to add the number e.g. "371185" to the file name of requested documents for Sunset PS?
  - a. The numbers listed in my original email are the project numbers. I have updated the list in my original email to provide permit numbers as well. When submitting the documents, please include the project or the permit number in the file name so we can distribute them to the correct permit reviewers.
4. Do we need to submit all documents in section VI of Table 29?
  - a. It appears the documents in section VI of the Table 29 were already submitted in the original applications and will not need to be provided again.

Please let me know if you have any other questions.

Thank you,



Grace King

Environmental Permit Specialist, Rules and Registrations Section

Air Permits Division, Office of Air, TCEQ

(512) 239-4936

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[www.tceq.texas.gov/customersurvey](http://www.tceq.texas.gov/customersurvey)

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**From:** Li, Dong (Maggie) <b>

**Sent:** Friday, March 8, 2024 1:38 PM

**To:** Grace King <[Grace.King@tceq.texas.gov](mailto:Grace.King@tceq.texas.gov)>

**Subject:** RE: TCEQ Standard Permit Project Nos. 371185 - 371199 - San Antonio Water System

Hi Grace,

We are working on to provide the requested information to you as soon as possible. I have a few questions for providing the additional information and filling the Table 29.:

1. As it is new air permit application, the natural gas generators are still being fabricate by the manufacturer and we don't have the Serial No. and Manufacture date yet. Can we fill those as "To be provided later" on Table 29?
2. All generators/engines for each site are the same. Can we fill in one form for each site and list all EPNs something as below?

EPN:
EP1 to EP 5

3. What are the number for each site listed in your email? Here is what I have on TCEQ STEERs website under my account. Do you want me to add the number e.g. "371185" to the file name of requested documents for Sunset PS?

1-15 of 15 Records

Subject	Submitted ▲	Processed	Conf.#	Account	Pgm Area ID	Ref #	Action
NSR STDPMT-N	03/06/2024	03/06/2024	527592	ER103518	175578	635796	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527593	ER103518	175579	635795	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527594	ER103518	175580	635791	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527595	ER103518	175581	635788	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527596	ER103518	175582	635767	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527597	ER103518	175583	635763	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527598	ER103518	175584	635761	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527599	ER103518	175585	635759	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527600	ER103518	175586	635757	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527601	ER103518	175587	635756	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527603	ER103518	175588	635754	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527604	ER103518	175589	635748	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527606	ER103518	175590	635293	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527607	ER103518	175591	634994	<a href="#">View COR</a> ▼
NSR STDPMT-N	03/06/2024	03/06/2024	527608	ER103518	175592	633739	<a href="#">View COR</a> ▼

4. Do we need to submit all documents in section VI of Table 29?

Thank you,

**Maggie (Dong) Li, Ph.D., P.E.\***

Engineering Manager

BV Operations – Government & Environment

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**From:** Richart, Matthew (Matt) <[RichartM@bv.com](mailto:RichartM@bv.com)>

**Sent:** Friday, March 8, 2024 11:04 AM

**To:** Li, Dong (Maggie) <[LiD1@bv.com](mailto:LiD1@bv.com)>

**Subject:** FW: TCEQ Standard Permit Project Nos. 371185 - 371199 - San Antonio Water System

FYI

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**From:** Grace King <[Grace.King@tceq.texas.gov](mailto:Grace.King@tceq.texas.gov)>

**Sent:** Friday, March 8, 2024 11:02 AM

**To:** Richart, Matthew (Matt) <[RichartM@bv.com](mailto:RichartM@bv.com)>

**Cc:** [JEFF.HABY@SAWS.ORG](mailto:JEFF.HABY@SAWS.ORG); Joshua Wheatley <[Joshua.Wheatley@tceq.texas.gov](mailto:Joshua.Wheatley@tceq.texas.gov)>; Crystal DelaCruz <[Crystal.DelaCruz@tceq.texas.gov](mailto:Crystal.DelaCruz@tceq.texas.gov)>; Celine Rosales <[Celine.Rosales@tceq.texas.gov](mailto:Celine.Rosales@tceq.texas.gov)>; Briannah Spooner <[Briannah.Spooner@tceq.texas.gov](mailto:Briannah.Spooner@tceq.texas.gov)>; Sarah Kyser <[Sarah.Kyser@tceq.texas.gov](mailto:Sarah.Kyser@tceq.texas.gov)>; Thomas Greinert

<[Thomas.Greinert@tceq.texas.gov](mailto:Thomas.Greinert@tceq.texas.gov)>; Brittiny Williams <[Brittiny.Williams@tceq.texas.gov](mailto:Brittiny.Williams@tceq.texas.gov)>

**Subject:** TCEQ Standard Permit Project Nos. 371185 - 371199 - San Antonio Water System

**Caution - External Email:** This email originated outside of Black & Veatch. Please do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Mr. Richart

After the initial review of the San Antonio Water System Electric Generating Unit Standard Permit applications that were submitted March 6<sup>th</sup> in STEERS, the following items are still needed:

- Provide a non-confidential project and process description.
- Provide line-by-line Electric Generating Unit (EGU) Standard Permit rule compliance.
  - You can find the EGU Standard Permit rule language here: [TCEQ - Air Quality Standard Permit for Electric Generating Units \(texas.gov\)](https://www.tceq.texas.gov/air-quality/standard-permit-for-electric-generating-units)
- Provide a Table 29 for each engine being authorized with this project.
  - You can find the Table 29 here: [TCEQ-Table 29 Reciprocating Engines \(texas.gov\)](https://www.tceq.texas.gov/air-quality/table-29-reciprocating-engines)

Please provide the information above for the following projects:

- 371185 – 175578 – Sunset Pump Station
- 371186 – 175579 – Stone Oak Pump Station
- 371187 – 175580 – Seale Pump Station
- 371188 – 175581 – Potranco Pump Station
- 371189 – 175582 – New World Pump Station
- 371190 – 175583 – Montgomery Pump Station
- 371191 – 175584 – Marabach 2 Pump Station
- 371192 – 175585 – IH-10 Pump Station
- 371193 – 175586 – Hills Pump Station
- 371194 – 175587 – Evans Pump Station
- 371195 – 175588 – Cagnon Pump Station
- 371196 – 175589 – Artesia Pump Station
- 371197 – 175590 – Anderson Pump Station
- 371198 – 175591 – Micron Pump Station
- 371199 – 175592 – Marabach Pump Station

If you have any question, please feel free to contact me.

Thank you,



Grace King

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## Air Quality Standard Permit for Electric Generating Units

*Effective Date May 16, 2007*

This standard permit authorizes electric generating units that generate electricity for use by the owner or operator and/or generate electricity to be sold to the electric grid, and that meet all of the conditions listed below.

### (1) Applicability

- (A) This standard permit may be used to authorize electric generating units installed or modified after the effective date of this standard permit and that meet the requirements of this standard permit.
- (B) This standard permit may not be used to authorize boilers. Boilers may be authorized under the Air Quality Standard Permit for Boilers; 30 TAC § 106.183, Boilers, Heaters, and Other Combustion Devices; or a permit issued under the requirements of 30 TAC Chapter 116.

**The engines being installed are RICE electric generating units and are not boilers.**

### (2) Definitions

- (A) East Texas Region - All counties traversed by or east of Interstate Highway 35 or Interstate Highway 37, including Bosque, Coryell, Hood, Parker, Somervell and Wise Counties. **The project is located in the East Texas Region (Bexar County)**
- (B) Installed - a generating unit is installed on the site when it begins generating electricity.
- (C) West Texas Region - Includes all of the state not contained in the East Texas Region.
- (D) Renewable fuel - fuel produced or derived from animal or plant products, byproducts or wastes, or other renewable biomass sources, excluding fossil fuels. Renewable fuels may include, but are not limited to, ethanol, biodiesel, and biogas fuels.

### (3) Administrative Requirements

- (A) Electric generating units shall be registered in accordance with 30 TAC § 116.611, Registration to Use a Standard Permit, using a current Form PI-1S. Units that meet the conditions of this standard permit do not have to meet 30 TAC § 116.610(a)(1), Applicability. **A PI-1S form has been submitted as a part of this permit application**
- (B) Registration applications shall comply with 30 TAC § 116.614, Standard Permit Fees, for any single unit or multiple units at a site with a total generating capacity of 1 megawatt (MW) or greater. The fee for units or multiple units with a total generating capacity of less than 1 MW at a site shall

be \$100.00. The fee shall be waived for units or multiple units with a total generating capacity of less than 1 MW at a site that have certified nitrogen oxides (NO<sub>x</sub>) emissions that are less than 10 percent of the standards required by this standard permit.

A permit fee of \$900 has been paid to TCEQ in the STEERS system

- (C) No owner or operator of an electric generating unit shall begin construction and/or operation without first obtaining written approval from the executive director. Construction and operation have not commenced and are pending written approval from the executive director

- (D) Records shall be maintained and provided upon request to the Texas Commission on Environmental Quality (TCEQ) for the following:

- (i) Hours of operation of the unit;

- (ii) Maintenance records, maintenance schedules, and/or testing reports for the unit to document re-certification of emission rates as required by subsection (4)(G) below; and

- (iii) Records to document compliance with the fuel sulfur limits in subsection (4)(C). SAWS will comply with these recordkeeping requirements once operation commences

- (E) Electric generators powered by gas turbines must meet the applicable conditions, including testing and performance standards, of Title 40 Code of Federal Regulations (CFR) Part 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, and applicable requirements of 40 CFR Part 60 Subpart KKKK, Standards of Performance for Stationary Combustion Turbines. The engines are not gas turbines. The EPA has issued a certificate of conformity for the engines for Subpart JJJJ.

- (F) Compliance with this standard permit does not exempt the owner or operator from complying with any applicable requirements of 30 TAC Chapter 117, Control of Air Pollution from Nitrogen Compounds, or 30 TAC Chapter 114, Control of Air Pollution from Motor Vehicles.

Engines are exempt under 30 TAC Chapter 117.3303(8).

#### (4) General Requirements

- (A) Emissions of NO<sub>x</sub> from the electric generating unit shall be certified by the manufacturer or by the owner or operator in pounds of pollutant per megawatt hour (lb/MWh). This certification must be displayed on the name plate of the unit or on a label attached to the unit. Test results from U.S. Environmental Protection Agency (EPA) reference methods, California Air Resources Board methods, or equivalent alternative testing methods approved by the executive director used to verify this certification shall be provided upon request to the TCEQ. The unit must operate on the same fuel(s) for which the unit was certified. Performance testing will be conducted on the units to demonstrate compliance with the requirement.

- (B) Electric generating units that use combined heat and power (CHP) may take



credit for the heat recovered from the exhaust of the combustion unit to meet the emission standards in subsections (4)(D), (4)(E), and (4)(F). Credit shall be at the rate of one MWh for each 3.4 million British Thermal Units of heat recovered. The following requirements must be met to take credit for CHP for units not sold and certified as an integrated package by the manufacturer:

**The units do not use CHP; not applicable**

(i) The owner or operator must provide as part of the application documentation of the heat recovered, electric output, efficiency of the generator alone, efficiency of the generator including CHP, and the use for the non-electric output, and

(ii) The heat recovered must equal at least 20 percent of the total energy output of the CHP unit.

(C) Fuels combusted in these electric generating units are limited to:

(i) Natural gas containing no more than ten grains total sulfur per 100 dry standard cubic feet;

**The units use natural gas provided by the utility company, CPS Energy, that complies with this standard**

(ii) Landfill gas, digester gas, stranded oilfield gas, or gaseous renewable fuel containing no more than 30 grains total sulfur per 100 dry standard cubic feet; or

(iii) Liquid fuels (including liquid renewable fuel) not containing waste oils or solvents and containing less than 0.05 percent by weight sulfur.

(D) Except as provided in subsections (4)(F) and (4)(H), NO<sub>x</sub> emissions for units 10 MW or less shall meet the following limitations based upon the date the unit is installed and the region in which it operates:

**The units are 450kW, located in East Texas, newly**

**East Texas Region: installed, a maximum of 500 hours of operation proposed annually**

(i) Units installed prior to January 1, 2005 and

(a) operating more than 300 hours per year - 0.47 lb/MWh;

(b) operating 300 hours or less per year - 1.65 lb/MWh;

(ii) Units installed on or after January 1, 2005 and

(a) operating more than 300 hours per year, with a capacity greater than 250 kilowatts (kW) - 0.14 lb/MWh;

**Performance testing will demonstrate compliance with the limit indicated here**

(b) operating 300 hours or less per year - 0.47 lb/MWh; or

(c) any unit with a capacity of 250 kW or less - 0.47 lb/MWh.

West Texas Region:

- (i) Units operating more than 300 hours per year - 3.11 lb/MWh;
  - (ii) Units operating 300 hours or less per year - 21 lb/MWh. Units certified to comply with applicable Tier 1, 2, or 3 emission standards in 40 CFR Part 89, Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines, are deemed to satisfy this emission limit.
- (E) Except as provided in subsections (4)(F) and (4)(H), NO<sub>x</sub> emissions for units greater than 10 MW shall meet the following limitations:
  - (i) Units operating more than 300 hours per year - 0.14 lb/MWh;
  - (ii) Units operating 300 hours or less per year - 0.38 lb/MWh.
- (F) Electric generating units firing any gaseous or liquid fuel that is at least 75 percent landfill gas, digester gas, stranded oil field gas, or renewable fuel content by volume, shall meet a NO<sub>x</sub> emission limit of 1.90 lb/MWh. Units in West Texas with a capacity of 10 MW or less that fire at least 75 percent landfill gas, digester gas, stranded oilfield gases, or gaseous or liquid renewable fuel by volume, must comply with the applicable West Texas NO<sub>x</sub> limit in subsection (4)(D). **Natural gas will be only fuel; not applicable**
- (G) To ensure continuing compliance with the emissions limitations, the owner or operator shall re-certify a unit every 16,000 hours of operation, but no less frequently than every three years. Re-certification may be accomplished by following a maintenance schedule that the manufacturer certifies will ensure continued compliance with the required NO<sub>x</sub> standard or by third party testing of the unit using appropriate EPA reference methods, California Air Resources Board methods, or equivalent alternative testing methods approved by the executive director to demonstrate that the unit still meets the required emission standards. After re-certification, the unit must operate on the same fuel(s) for which the unit was re-certified.  
**SAWS will comply with the re-certification requirements**
- (H) The NO<sub>x</sub> emission limits in subsections (4)(D)-(4)(F) are subject to the following exceptions:
  - (i) The hourly NO<sub>x</sub> emission limits do not apply at times when the ambient air temperature at the location of the unit is less than 0 degrees Fahrenheit.
  - (ii) At times when a unit is operating at less than 80% of rated load, an alternative NO<sub>x</sub> emission standard for that unit may be determined by multiplying the applicable emission standard in subsections (4)(D)-(4)(F) by the rated load of the EGU (in MW), to produce an allowable hourly

mass NO<sub>x</sub> emission rate. In order to use this alternative standard, an owner or operator must maintain records that demonstrate compliance with the alternative emission standard, and make such records available to the TCEQ or any local air pollution control agency with jurisdiction upon request.

## Process Description-

The proposed project involves the installation of Reciprocating Internal Combustion Engines (RICE) at a water distribution facility. These engines will serve as electric generating units, providing resiliency for power generation for water distribution in the event of a power outage. The units will also be capable of intermittent use for distributed generation of electricity to the grid. The engines will be powered by natural gas. The specific engines being installed are 450kW Generac 21.9L Natural Gas Heavy Duty Engines (ERT450) provided by Enchanted Rock, LLC. 3 engines are planned for installation at the Cagnon site for a total nameplate capacity of 1350kW.

### Process:

1. Fuel: Natural gas
2. Power Generation: The RICE functions by combusting natural gas in the engine to operate an alternator to generate electricity. When operated at 50%, 75%, and 100% load, the generator will output approximately 169, 338, and 450 kW of electricity and consume approximately 2197, 3757, and 4936 sft<sup>3</sup> of fuel per hour, respectively. 3 engines are proposed to be installed at the Cagnon site; each engine is proposed to be permitted for up to 500 hours of operation per year. The 500 hours of operation includes Maintenance, Startup, and Shutdown (MSS) activities.
3. Emission Generation and Release: The natural gas combustion process in the RICE generates emissions, primarily consisting of carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOCs), and small amounts of other criteria pollutants and hazardous air pollutants (HAPs). The emissions enter the atmosphere through the engine's exhaust system. Maximum emissions rates for the engines will occur at 100% loads, the highest production rate. Air pollution control measures or devices will not be implemented at the site. According to maximum emissions calculations, emissions from the engines will be far below major source permitting thresholds. The EPA has issued a Certificate of Conformity with the Clean Air Act for the specific engines being proposed, indicating that the engines meet the emissions standards of 40 CFR Part 60 Subpart JJJJ Table 1. These specific standards for Non-Emergency Spark Ignition Natural Gas engines are 1.0 g/hp-hr of NO<sub>x</sub>, 2.0 g/hp-hr of CO, and 0.7 g/hp-hr of VOCs. The generators will additionally meet the East Texas NO<sub>x</sub> emission standards of 0.14 lb/MW-hr for Electric Generation Units. Compliance with this limit will be demonstrated by performance testing.
4. Electricity Output: The engines will be non-emergency generators capable of being interconnected to the grid such that under normal conditions, they may be intermittently used for distributed generation of electricity produced to the grid. When power outages and disruptions occur at the water distribution facility, the generators will be used to power the pumps and other equipment at the facility.

Because the process solely includes electrical production from RICE generators, MSS procedures will not involve a significantly different process than normal operation of the facility. Emissions during shutdown and startup are not in excess of the 100% load engine production scenario in which maximum possible emissions occur. Shutdown and startup itself lasts for short periods, on the order of seconds and minutes. Routine, regular maintenance on the engines will be planned according to the recommendations of the engine manufacturers and will occur during periods in which the machines are not in operation. The frequency and duration of each type of planned MSS activity will vary depending on operational requirements and the specific maintenance schedule for the engines.

The limited scope of the project and the singular source of emissions in the process will act to minimize the risk of collateral emissions increases not considered in the process description.

**Texas Commission on Environmental Quality**  
**Table 29 Reciprocating Engines**

I. Engine Data											
Manufacturer: GENERAC		Model No. 21.9L ER LTP		Serial No. TBD		Manufacture Date: Post March 8, 2024					
Rebuilds Date: N/A		No. of Cylinders: 12		Compression Ratio: 10.1:1		EPN: EP1-EP3					
<b>Application:</b> <input type="checkbox"/> Gas Compression <input checked="" type="checkbox"/> Electric Generation <input type="checkbox"/> Refrigeration <input type="checkbox"/> Emergency/Stand by											
<input checked="" type="checkbox"/> 4 Stroke Cycle <input type="checkbox"/> 2 Stroke Cycle <input type="checkbox"/> Carbureted <input checked="" type="checkbox"/> Spark Ignited <input type="checkbox"/> Dual Fuel <input type="checkbox"/> Fuel Injected											
<input type="checkbox"/> Diesel <input type="checkbox"/> Naturally Aspirated <input type="checkbox"/> Blower /Pump Scavenged <input type="checkbox"/> Turbo Charged and I.C. <input checked="" type="checkbox"/> Turbo Charged											
<input type="checkbox"/> Intercooled <input type="checkbox"/> I.C. Water Temperature <input type="checkbox"/> Lean Burn <input checked="" type="checkbox"/> Rich Burn											
<b>Ignition/Injection Timing:</b> Fixed: _____           Variable: _____											
Manufacture Horsepower Rating: 673 (450 kW)						Proposed Horsepower Rating:					
Discharge Parameters											
Stack Height (Feet)		Stack Diameter (Feet)		Stack Temperature (°F)		Exit Velocity (FPS)					
12		0.5		1326		260					
II. Fuel Data											
Type of Fuel: <input type="checkbox"/> Field Gas <input type="checkbox"/> Landfill Gas <input type="checkbox"/> LP Gas <input checked="" type="checkbox"/> Natural Gas <input type="checkbox"/> Digester Gas <input type="checkbox"/> Diesel											
Fuel Consumption (BTU/bhp-hr): 7010				Heating Value: 1062				Lower Heating Value: 956			
Sulfur Content (grains/100 scf - weight %): 5 grains/100 scf											
III. Emission Factors (Before Control)											
NO <sub>x</sub>		CO		SO <sub>2</sub>		VOC		Formaldehyde		PM <sub>10</sub>	
g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv
1.0		2.0		1.78e-4		0.7		0.006		0.0058	
Source of Emission Factors: <input checked="" type="checkbox"/> Manufacturer Data <input checked="" type="checkbox"/> AP-42 <input type="checkbox"/> Other (specify): _____											
IV. Emission Factors (Post Control)											
NO <sub>x</sub>		CO		SO <sub>2</sub>		VOC		Formaldehyde		PM <sub>10</sub>	
g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv
0.042		2.0		1.78e-4		0.7		0.006		0.0058	
Method of Emission Control: <input checked="" type="checkbox"/> NSCR Catalyst <input type="checkbox"/> Lean Operation <input type="checkbox"/> Parameter Adjustment <input type="checkbox"/> Stratified Charge <input type="checkbox"/> JLCC Catalyst <input type="checkbox"/> Other (Specify): _____											
<i><b>Note:</b> Must submit a copy of any manufacturer control information that demonstrates control efficiency.</i>											
Is Formaldehyde included in the VOCs?										<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
V. Federal and State Standards (Check all that apply)											
<input checked="" type="checkbox"/> NSPS JJJJ <input checked="" type="checkbox"/> MACT ZZZZ <input type="checkbox"/> NSPS IIII <input type="checkbox"/> Title 30 Chapter 117 - List County: _____											
VI. Additional Information											
1. Submit a copy of the engine manufacturer's site rating or general rating specification data. 2. Submit a typical fuel gas analysis, including sulfur content and heating value. For gaseous fuels, provide mole percent of constituents. 3. Submit description of air/fuel ratio control system (manufacturer information is acceptable).											